A short introduction to Bland–Altman plots

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Measurements?
What we’re measuring

We’re measuring continuous variables:

– Blood pressure
– Tumour volume
– Renal function
– Pulmonary function
– Body height
Variation
Variation

Summary statistics
Average: 70
Standard deviation: 10

95 %
Correlation
Correlation does not measure agreement

Method B is miscalibrated – it’s 10 cm off

Correlation: 0.96
The Bland–Altman method
Let’s look at differences

Some statistics on the difference \((B − A)\)

Average: 2,1 cm

Standard deviation: 3,0 cm

Limits of agreement: \((2,1 \pm 2 \cdot 3,0) \text{ cm} = (−3,9; 8,1) \text{ cm}\)
Increasing differences

\[
\frac{(A + B)}{2}
\]
Bland–Altman plot on logged data
Back-transforming
The End